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The Local Investigation of Atmospheric Pollution*

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Atmospheric pollution has recently become a popular topic because of the publicity given to the Los Angeles smog problem and the Donora tragedy. It is a real problem and one with which public health departments must be concerned.

The State Legislature has passed enabling legislation which permits California counties to establish air pollution control districts. Los Angeles County and Santa Clara County are the only two counties in the state to avail themselves thus far of this opportunity. Los Angeles Couny is well organized with sufficient personnel and field sampling equipment to do a very thorough investigative job. Santa Clara County, on the other hand, is rather new in the organization of its atmospheric pollution control district and is not so well provided with staff and equipment.

Before legislation permitted the formation of local control districts, citizens' complaints about atmospheric pollution were channeled through the health department, either local or state, to the Bureau of Adult Health of the State Department of Public Health. It was the policy of the bureau to investigate such cases so far as possible and to determine the causative agent or agents which prompted the particular complaint. In most instances the bureau dealt directly with the industrial plant or other source involved, and with the complaining neighborhood.

With the new legislation and a much more widespread problem, the Bureau of Adult Health has felt it necessary to refer complaints to local health departments in those counties which have no atmospheric pollution control districts. However, the State Department of Public Health realizes that many of the local departments cannot handle these problems alone. To assist them, an Air Pollution Control Committee has been established in the state department. This committee in turn has worked out a procedure for handling air pollution problems.

Technical Aid Available

When technical assistance is desired by a local health department, the committee asks that certain information be obtained by local personnel in the field for its use in correlating the activities of State and local jurisdictions. A form has been prepared to help local departments get the needed data.

Information desired by the committee includes identification of the complaint, its nature, the apparent source and complainant's description of the air pollution, the epidemiology, area affected, time variations, weather variations, and a history of any local action taken to date. The local inspector is also asked to submit a summary of his impressions of the problem. When this information is received by the Air Pollution Control Committee it is evaluated and a decision is reached as to the need for field investigations by the state department. The local health department is accordingly notified, and when field investigations are involved it is invited to send a representative along with the investigating crew to assist in the study.

Classification of Complaints

Most complaints fall into one of the following classes: (1) No nuisance whatever; (2) a public health nuisance; (3) a general nuisance; (4) a private nuisance.

One of the first responsibilities of a health department is to determine whether the complaint falls into the class of a public health nuisance. This is not done

* An address before the Atmospheric Pollution Control Panel of the Northern California Section, National Association of Sanitarians, at its meeting in San Jose on Decemer 1, 1949.

easily. In the experience of the Bureau of Adult Health there are very few instances in which concentrations of atmospheric pollution have been found which will approach even those acceptable thresholds which have been established within industry for exposure of workers to specified materials. These maximum acceptable concentrations (abbreviated as "MAC") have been established as working levels, to which the worker may be exposed for eight-hour daily periods for an indefinite time with no apparent ill health. The MAC's established for specific materials are well above concentrations usually found in atmospheric pollution. On such a basis the demonstration of a public health nuisance is very rare.

If, however, one accepts the definition of the World Health Organization which says "Health is a state of complete physical, mental and social well being, and not merely the absence of disease or infirmity," it follows that a public health nuisance does exist in many of these complaints, for it can be established readily that "complete physical, mental and social well being" is deficient among the complainants.

Actually there should be some middle ground for the establishment of a public health nuisance. Certainly we should not consider, for the public at large, the maximum acceptable concentrations which are utilized for industrial exposure evaluation. Nor, in my opinion, should we consider complete physical, mental and social well being as the criterion. Somewhere in between is the happy compromise—but exactly where is hard to define.

Real discomfort such as smarting of the eyes probably would be considered a public health nuisance. But whether the presence of an offensive odor without demonstrable ill effects should be so considered, is open to question.

When Is a Nuisance "Public"?

Another point which should be borne in mind in the investigation of a complaint is the number of people actually affected, or to put it another way, the percentage of people in an area who are potential complainants.

For example, let us assume that a certain district has 100 households within its boundaries, and that a complaint has been received of some malodorous material emanating from an industrial plant in the neighborhood. An investigation by local health department inspectors shows that actually only one or two of these households have made or are inclined to make any complaint of the odor problem. Common or public nuisances are offenses against the public or economic regimen of the state, either because of something done to the annoyance of the community or of something neglected but which the common good requires. It is a nuisance that annoys or injures the people as a whole. In our example, complaints from 2 percent of the households could hardly be considered sufficient reason to consider this problem a public nuisance. However, if 10, 15, 20, or 25 percent of the households complained of the matter, then it moves into the category of a public nuisance and appropriate action should be taken.

Approaches to Abatement

The avenues which the local health department may take to abate any public nuisance are:

a. To cooperate with the offending plant or other agency to work for the elimination of the condition causing the nuisance
b. In the case of a public health nuisance, to abate it through action filed by the local health officer
c. In the case of a public nuisance, to refer it to the district attorney for appropriate action
d. In the case of a private nuisance, to refer it back to the complainant for civil action if he should so desire.

Obviously it is desirable to reach the objective by cooperative effort if at all possible. Tact, good judgment, and the ability to present the problem factually are all needed to point out to the offending agency that control of the nuisance is desirable. If the first method fails, then recourse must be made to legal means.

Following are three examples of complaints received by the Air Pollution Committee of the State Department of Public Health and the methods followed in processing them.

A Public Nuisance

In a California mining town, dust from secondary dry tailings ponds was blown over the community by the wind at varying periods of the year. It was alleged by residents that the condition was extremely unhealthy, especially to children. The matter was referred to the local health department, which made an investigation. In its report back to the community, this department stated its findings indicated that the dust situation was currently no worse than any other time during the past thirty years, but recommended that an investigation be made by the State Department of Public Health with local assistance. From the information then at hand, it appeared that there were three aspects of the dust problem to be considered:

(a) The toxic effect from the silica or cyanide content of dust either inhaled or swallowed;
(b) The general damage to the lungs of persons breathing the dust over a period of years; and
(c) The public nuisance caused by damage to property or by interference with comfort.

The Bureau of Adult Health was concerned with (a) and (b). Its first action was a field investigation of the chemical content of the dust to determine presence, if any, of free silica and cyanide. Consideration was then given to the length of exposure to any given dust storm or all likely dust storms of the year. It was concluded that no health hazard existed. However, in order to prove this beyond all reasonable doubt, an X-ray study of the persons in the area was made. There were no affirmative findings except in those persons who had previous histories of working underground in the mines. The matter was then referred to the local health department for further action as a public nuisance only and not as a public health nuisance.

A Public Health Nuisance

Residents of a small town in which a mill grinds various types of rock to powder complained that fine dust from the mill sifted into their homes and caused an upper respiratory irritation. A survey of the mill and vicinity brought out the following important conditions: (a) visible dust was noted to have settled over practically the entire community and to have infiltrated into most homes in objectionable quantities, and (b) materials were so handled in the plant that employees were experiencing a very definite dust exposure.

While this problem originated as a complaint from residents of the community, it was handled as an in-plant exposure. The bureau made recommendations to plant management for engineering controls and for proper maintenance of equipment, not only to make the plant a more healthful working place but also to minimize the amount of dust which might escape into the atmosphere. The situation is now being watched closely by the local health officer, and the plant has promised to install necessary control equipment.

A Personal Nuisance

Another case was presented by an individual who pointed a finger of suspicion at a nearby dehydrating plant. He complained of noise from the fans at night, of sulphur fumes from the ventilators, and of a sickening odor from apples while they were being dehydrated. The matter as usual was referred to the local health department for investigation. The health officer, through his sanitarian, found that none of the households near the suspected plant had any complaints to make against the drier. In fact, all were surprised to learn that a complaint had been lodged against the company. The opinion of the local health officer was that: "Due to these facts, in our opinion, this complaint does not constitute a public nuisance and is a private matter between the complainant and the management of the drier."

Approximately thirty complaints of atmospheric pollution were received and investigated by the Bureau during 1949. Those outlined above are selected as illustrative examples of typical complaints.

The current situation of interest to State and local departments of public health might be summarized as follows:

1. Local health departments will receive atmospheric pollution complaints of various types in greater numbers as time goes on.
2. In the absence of atmospheric pollution control districts, the responsibility for investigation and abatement of nuisances from atmospheric pollution rests with the local health department.
3. The Air Pollution Committee of the State Department of Public Health will assist the local health department in those counties where no organized air pollution control district has been established to the extent of its personnel and time.
4. The sanitarian in the local health department, upon whose shoulders will fall the field job of investigating a complaint, should make as complete an investigation as possible to assemble all relevant facts and thereby enable a more correct evaluation of the problem.
5. If a nuisance is found to exist, effort must be focused to establish whether it is a public nuisance, a public health nuisance, or a private nuisance.
6. If either a public nuisance or a public health nuisance exists, the local department should seek to cooperate with the offending plant or agency toward voluntary elimination of the condition causing the nuisance. Failing of success, legal action may then be taken if, in the opinion of the health officer and the district attorney, the condition is serious enough to warrant it.

Warning on Cancer Test

Numerous articles have appeared in newspapers and magazines under the heading, "Simple Blood Test for Early Cancer Diagnosis."

These stories are described as premature and misleading by Dr. James W. Ellis, Cancer Consultant of the State Department of Public Health. Dr. Ellis says:

"The test referred to is still in the laboratory phase and is not intended for routine use or as an office procedure. Doctors should not accept reports on this 'Simple Test' as evidence for either the presence or absence of cancer."

A similar warning is being issued by the California Medical Association.

The Hillsdale Plan in Action*

ARTHUR W. STROM, M.D., Hillsdale, Michigan

"Every physician's office a cancer detection center" * * * is an objective that has the support of public health departments, the medical profession and voluntary agencies interested in the cancer control program.

California's Health reprints "The Hillsdale Plan in Action" as an example of one way this objective can be accomplished. Programs similar to the Hillsdale Plan are now in operation in 13 Michigan counties under the sponsorship of the Michigan Cancer Control Committee composed of representatives of the State Medical Society, the State Department of Public Health and the American Cancer Society.

The program for tumor detection which has become known as the Hillsdale Plan was begun by members of the Hillsdale County Medical Society in January, 1948.

A survey made under the auspices of the Cancer Control Control Committee of the Michigan State Medical Society in the summer of 1947 revealed that of all cancer cases treated by Hillsdale County physicians in 1946, over 60 percent had cancers of the skin, breast, uterus and rectum—all sites which could be readily examined by physicians in their own offices without special equipment.

Lay groups, such as women's clubs, the Grange and the local chapter of the American Cancer Society, had interested themselves in the institution of a detection center or some other method whereby individuals could secure cancer detection examinations.

Every Doctor's Office a Detection Center

With the guidance of the Cancer Control Committee of the Michigan State Medical Society, the Hillsdale County Medical Society decided to make every doctor's office a cancer detection center, since such a procedure would entail no additional cost for extra office space or special assistants, and would not draw too heavily on any one physician's time from his routine practice. Of the eighteen practicing physicians in Hillsdale County, thirteen are doing tumor detection examinations under this plan.

During the winter of 1948 the plan received extensive local newspaper publicity, practically all of which was in the form of news stories about the 1947 survey and the readiness of physicians to receive patients for examination. Much publicity work was carried out by the Hillsdale County Health Department, service clubs, the local chapter of the American Cancer Society and individual physicians. Interest aroused by the initial publicity, together with the satisfactory results of the examination, has maintained the number of examinations at a high level without subsequent organized publicity efforts.

Originally only women over 40 were urged to be examined once each six months, but younger women and also men were given tumor detection examinations if they were requested. Now the examinations are recommended to all ages of both sexes.

The examination procedure is not complicated. The patient makes an office appointment with the physician of his choice, usually his family physician. The examination is usually made within a few days, thus eliminating any backlog or long waiting periods.†

The patient is weighed, the temperature and pulse rate recorded, and the urine tested. After disrobing and draping, questions are asked regarding symptoms which might indicate cancer and a general physical examination is carried out. This includes examination of the skin, tongue, gums, inner cheeks, throat, neck, breasts, heart, lungs, abdomen, genital organs and rectum. The blood is tested for anemia if indicated.

Should history and examination reveal suspicious or definite evidence of tumor, the patient is so told and arrangements are made for securing a small piece of suspected tissue for microscopic examination to prove the diagnosis. If X-ray examinations are indicated, arrangements are made for them to be made at the local hospital. All suspicious cases are studied until cancer is or is not proved. If the examination reveals no evidence of tumor, re-examination at six months intervals is advised.

Precancerous Conditions Discovered

Needless to say, many abnormal conditions other than cancer have been found and advice given for their correction. Time does not permit a cataloging of these conditions, some of which are classed medically as precancerous diseases. Certainly one of the largest groups has been women of middle age with cysts and erosions of the cervix, or mouth of the womb. It has been reliably stated that cancer rarely develops in a normal healthy cervix; we feel sure the return to normality of a diseased cervix after minor surgery has forestalled the development of cancer in many cases.

Simple records are kept of the examinations and reported monthly to the county health department, which maintains a confidential file for statistical purposes. This file is available only to the cancer committee of the Hillsdale County Medical Society and other properly authorized persons.

* Reprinted from *Michigan Public Health*, November, 1949.

† Another group of patients undergoing tumor detection examinations are those visiting their physicians at periodic intervals for chronic diseases such as diabetes, arthritis, and heart disease, on whom detection examinations are made every six months with their cooperation and consent.

How much does this examination cost? A charge of $4 or $5, which is the usual fee in this community for a physical examination, is made by the examining physician. There are additional charges when special laboratory or X-ray examinations are necessary. For those persons to whom the examination fee is a hardship, loan funds are available from the local chapter of the American Cancer Society with which this fee can be paid. The cost of record forms was less than $10 per doctor cooperating in the plan, and was paid from funds of the Hillsdale County Medical Society. The cost of part-time clerical work in keeping the central master file is borne by the county health department.

In the first 19 months the plan has been in operation, through July, 1949, 1,950 examinations have been made, of which 1,547 were original examinations, 324 second examinations and 79 third examinations. Fifty-four cases of cancer were found. This is 2.7 percent of all examinations and 3.49 percent of the individuals examined. Of the 54 cases found, 32 or 60 percent were early or only moderately advanced, offering prabability of cure by treatment.

According to the 1940 U. S. Census population, 17.5 percent of the females over 40 in Hillsdale County have had one or more examinations since this program began.

It should be pointed out that these 1,547 people had never before had an examination for cancer. Even those found with advanced cancer had never consulted a physician regarding their condition previous to this examination. No cancer patient already known to his physician or whose cancer was discovered by examination when ill in the hospital or at home has been included in the examinations reported above.

The chief difficulty encountered in making this plan more effective is that of obtaining the patient's cooperation in returning for examination each six months. Every patient originally examined has been advised of the desirability of such reexaminations, and a fair percentage has returned for them. A personal letter from physician to patient is under consideration for those who fail to return at six month intervals.

Education, Semiannual Examinations Needed

Experience gained in carrying out this program indicates the need for a continuing lay educational program to accompany the examination procedure. There is still a tendency on the part of those examined to consider one examination with negative findings as assurance against cancer for an indefinite period. Education is needed to break down this dangerous attitude and to demonstrate that their protection against the development of cancer to a dangerous extent depends on their faithful return for semiannual examinations.

The program has stimulated participating physicians to a much keener interest in cancer diagonsis and treatment. It has also made necessary an expansion of hospital facilities in the departments of radiology and pathology for the further service to these added cancer patients. These expanded hospital facilities have increased the services for maintaining the community health, which has profited because of the Hillsdale Plan for Tumor Detection. By this plan we are exerting a more effective effort than ever before in detecting and successfully treating cancer in our community.

While physicians have many other diseases to consider in their daily practice, Hillsdale County physicians will continue to meet the demand for cancer detection examinations to the limit of their time.

C. O. A. Members Welcome Cancer Symposia

As a result of 1947-49 chronic disease investigation carried on by this department and its Chronic Disease Advisory Committee, the committee's member representing the California Osteopathic Association asked the department's cancer consultant to outline a cancer program for the C. O. A.

The first step proposed was that the Association establish a cancer commission, which would administer educational activities directed toward acquainting members with approved methods of diagnosis and treatment of cancer; establish standards for tumor clinics; and list specialists qualified to treat cancer. The commission was established in May, 1949, and since then has carried on an active and well-received program.

First major project was the cancer teaching symposium for members of the C. O. A. held in Los Angeles last October. It was attended by 340, and addressed by eminent professors from various medical schools. On January 22, 1950, a second symposium was held in Oakland with a registered attendance of 102 osteopathic physicians and surgeons. Sessions again were conducted by professors of medical specialties from state schools of medicine. It is reported that both symposia were warmly welcomed and praised for their usefulness by all who attended them. Similar meetings will be held at dates to be announced.

Members of the Cancer Commission of the California Osteopathic Association, all osteopathic physicians and surgeons, are: L. B. O'Meara, *Chairman*; J. R. Hughes, W. W. Jenney, R. P. Morhardt, J. P. Oswald, J. A. Pearce, E. A. Randel, G. W. D. Robbins, W. F. Robinson.

The existence of slums is a health problem of outstanding significance.—*Dr. C.-E. A. Winslow.*

Nurse-epidemiologist to Retire After 26-Year Service

Miss Florence Ames, P.H.N., is about to retire after 26 years of noteworthy service as a Nurse-epidemiologist with the State Department of Public Health.

Miss Ames' active career has taken her into every county of California during a period of remarkable progress in the prevention, diagnosis and treatment of communicable diseases. She has conducted investigations and immunization programs with respect to botulism, diphtheria, encephalitis, food poisoning, poliomyelitis, psittacosis, smallpox and typhoid fever.

The public health nurse was first employed by the State Department of Public Health in January, 1923. For three years thereafter she worked on loan with the Orange County Health Department, second fulltime county public health department to be organized in this State. In 1924 she gained unusually intensive experience from one of the biggest epidemics of typhoid and other water-borne diseases in state history. This was the outbreak at Santa Ana caused by the backing up of sewers during heavy rains. There were 620 subsequent cases of typhoid fever with 48 deaths. The disease was water-borne, but spread to raw milk and touched off one outbreak within another. In addition there were 200 reported cases of bacillary dysentery and over 10,000 cases of diarrhea.

Since her return to State employment in 1926, Florence Ames has taken an active part in most of the epidemiological investigations of typhoid fever in California. As her last project before retirement she is now completing a written review of all typhoid outbreaks since the Santa Ana epidemic.

It is interesting to compare some morbidity figures of the first and latest years of Miss Ames' career in public health nursing. The table below shows contrasts which underscore the dynamic nature of epidemiology in our time.

Disease	*1924*	*1949*
Botulism	22	2
Diphtheria	11,109	449
Encephalitis	146	59
Poliomyelitis	192	2,744
Smallpox	9,445	0
Typhoid fever	1,777	116

Lip Reading Award

Prospective teachers of lip reading to the hard of hearing may apply for the annual $100 Kenfield Memorial Scholarship administered by the American Hearing Society. Applications must be filed between March 1st and May 1st with Miss Rose Feilbach, chairman, Teachers' Committee, 1157 North Columbus Street, Arlington, Virginia. Those already teaching lip reading cannot be considered.

Local Health Officer Change

Selmes P. Funkhauser, M.D., is the new health officer for Lake County, with headquarters at Clearlake Highland. Dr. Funkhauser replaces M. C. Beil, M.D., in this position.

San Diego X-ray Survey Follows Up Cancer, Cardiac Films

The detection of heart abnormalities, tumors and cancer is an integral part of the metropolitan San Diego mass chest X-ray campaign, with active follow-up of all suspicious films for these diseases as well as tuberculosis.

The San Diego Mass X-ray Survey Corporation has two special committees supervising nontuberculosis activities. Its Committee on Pulmonary Neoplasm and Nontuberculosis Diseases of the Chest is handling follow-up work in this field. R. H. Sundberg, M.D., is chairman, and Ambrose Churchill, M.D., vice chairman. The Committee on Cardiovascular Diseases is operating under chairmanship of S. J. McClendon, M.D., with Anton S. Yuskis, M.D., as vice chairman.

All films which show any sign of tumor, cancer or cardiac pathology are studied by review panels of the appropriate committee, and persons involved are referred to the Retake Center for 14 x 17 films. These larger films are read by review panels which recommend disposition of each case. The case is flagged as "Routine" or "Urgent," and the patient referred to his own physician, or to the county hospital if unable to pay for treatment.

Cost of retake films is assumed by the Survey Corporation, while the state and local health departments furnish clerical and nursing personnel, and supplies.

Health Educator Needed

The Civil Service Commission of San Bernardino County announced that applications will be received until further notice for examination as Health Educator, with one immediate appointment proposed in the County Health Department.

Applicants must be U. S. citizens. They must possess education and training equivalent to a Master's degree in public health, with at least three months of field training in an active health education program. Salary range is $269 to $327. Application forms may be obtained from the Director of Personnel, Civil Service and Personnel Office, 242 Third Street, San Bernardino, California. Date of examination will be announced later.

State Fair Dental Survey Finds Decay Prevalent

The Division of Dental Health is now evaluating the dental X-ray survey made in cooperation with the California Dental Association at the 1949 State Fair in Sacramento. This project made bite-wing X-rays of 1,477 children, and had the following main objectives:

1. To obtain mass radiological evidence as to the prevalence of dental diseases and conditions on an unselected sample of children, from the ages of two through 12.
2. To motivate parents to seek dental care for their children.
3. To show that dental care should begin with the very young child.
4. To show the value of X-rays in dentistry for children.
5. As a means of providing dental health education.

Procedure was to take bite-wing X-rays on all children from the age of two through 12 whose parents or guardian signed the required consent slips. Although volunteer dentists were on duty at all times during the operation of the dental booth, the actual taking of the X-rays was done by qualified dental radiologists. It was the responsibility of the dentists to act as consultants in dental health as well as to provide general supervision over the whole exhibit. They made no attempt to examine or diagnose dental conditions.

Each day's films were sent to San Francisco, where they were developed and mailed to the parent or guardian with instructions to take the child and his films to the family dentist for diagnosis and interpretation. Also included with the film was a detachable portion to be filled out by the dentist and returned to the State Department of Public Health. A check was thus made on the efficiency of this type of motivation for parents. Duplicate X-ray films were used, in order that means for evaluation would be available for the Division of Dental Health and for the dental profession in general.

Although the X-rays from the State Fair have not been completely evaluated, a random sample of 150 children in the seven-year age group showed an average 7.3 unfilled carious areas per child, not including filled or missing teeth. This is a very striking figure when it is considered that bite-wing films do not tell the complete story of dental condition. The anterior 12 teeth were not included in the X-rays.

Another point worth mentioning is the fact that out of 1,477 children X-rayed, only five were between the ages of two and three, even though an abundance of children of those ages continually passed the exhibit. This definitely indicates that there is an especial lack of awareness among parents that dental care should begin with the very young child.

The Bureau of Health Education made dental health educational material available at the exhibit to all who requested it. It is apparent that much needs to be done in education for parents and children by all concerned with dental health.

Health Department Bureau Chief Wanted by San Diego

One immediate permanent appointment as Chief, Bureau of Preventive Medical Services, is planned by the San Diego Department of Public Health, and applications for examination are now being received by the county department of civil service and personnel.

Requirements for examination include U. S. citizenship, license to practice medicine in California, and either: (1) Possession of the M.P.H. degree; (2) two years of military medical corps experience; or (3) one year of public health experience. Age limit is 55. Salary range is $616-$647.

Application forms are obtainable from the San Diego County Department of Civil Service and Personnel at Room 402, Civic Center, San Diego 1.

Occurrence and Residence Data Use Explained

In quoting vital statistics data for an area the figures are usually qualified as being "by place of occurrence" or "by place of residence." The usage of these two terms is best made clear by examples.

Suppose deaths by county are considered, as shown in the accompanying table. A decedent whose home was in Berkeley but who was hospitalized and died in a San Francisco hospital would be included in "place of residence" tabulations for Alameda County, in which Berkeley is located, but in "place of occurrence" tabulations for San Francisco County. However, had the decedent died in an Oakland hospital, he would have been included in both "place of residence" and "place of occurrence" tabulations for Alameda County, since Oakland is also in Alameda County.

It might be expected that in most cases the number of deaths "by occurrence" and the number "by residence" for a county would not be exactly the same. Counties in which large urban areas are located have hospital facilities which may be used by residents of surrounding or even distant areas, and consequently the occurrence data would probably be higher than residence data. Data from the accompanying table indicate that Alameda, Los Angeles, and San Francisco Counties, for example, have higher occurrence totals

because extensive hospital facilities are located in these areas.

Deaths: California Counties—1948

(Exclusive of stillbirths. By place of occurrence and by place of residence)

County	Occurrence	Residence	County	Occurrence	Residence
California, total	99,347	98,425			
Alameda	7,265	6,959	Placer	551	483
Alpine	7	6	Plumas	123	116
Amador	88	111	Riverside	1,639	1,541
Butte	728	731	Sacramento	2,580	2,583
Calaveras	118	114	San Benito	152	152
Colusa	144	144	San Bernardino	2,835	2,761
Contra Costa	1,301	1,573	San Diego	4,438	4,378
Del Norte	86	78	San Francisco	9,895	9,376
El Dorado	176	183	San Joaquin	2,183	2,194
Fresno	2,343	2,358	San Luis Obispo	491	515
Glenn	102	132	San Mateo	1,387	1,440
Humboldt	738	735	Santa Barbara	894	851
Imperial	508	519	Santa Clara	3,005	2,920
Inyo	103	116	Santa Cruz	881	911
Kern	1,678	1,654	Shasta	336	343
Kings	425	427	Sierra	14	25
Lake	161	170	Siskiyou	294	286
Lassen	130	146	Solano	673	705
Los Angeles	38,884	38,656	Sonoma	1,243	1,263
Madera	341	324	Stanislaus	1,132	1,115
Marin	661	690	Sutter	173	187
Mariposa	60	54	Tehama	251	253
Mendocino	510	514	Trinity	58	67
Merced	507	510	Tulare	997	1,088
Modoc	90	88	Tuolumne	170	160
Mono	19	16	Ventura	1,110	1,086
Monterey	879	901	Yolo	410	415
Napa	915	825	Yuba	290	305
Nevada	257	245	County not stated		13
Orange	1,918	1,914			

SOURCE: State of California, Department of Public Health, Vital Statistics Records.

Statistical classification of deaths that occur in resident institutions such as mental hospitals, sanatoria and orphanages involves special problems.

One alternative would be to consider decedents in these institutions as residents of the county in which the institution is located. This is the procedure which was followed through 1948. Use of this method tends to show an excessively high death rate from certain causes in small counties where institutions are located. For example, the tuberculosis death rate in counties having either mental institutions or tuberculosis sanatoria would be disproportionately high.

Another alternative is to consider decedents in institutions as residents of the county in which they had their home before being admitted to the institution. Beginning with 1949 data, this system of classification will be used.

Data by place of occurrence are of value in evaluating the use of hospital facilities in an area, in studying special causes of death such as accidents, in comparing data of past years for which only occurrence information is available, and for many other uses. Residence data are now more frequently used. They are of greater value when rates are to be calculated, or in any case when comparison with a known resident population is to be made, or when health problems of residents are to be studied.—*Florence Olson, Associate Statistician, Bureau of Records and Statistics.*

Civilian Atom Defense Subject of Red Cross Leaflet

"What to Do in Atomic Attack," a pointed exposition on how the individual can protect himself in case of atomic explosion, is the title of a preparedness leaflet being distributed by the American Red Cross to disaster chairmen in each of its local chapters. The material, prepared by experts in their fields for the Office of the Secretary of Defense, originated as Armed Forces Talk No. 276 directed to servicemen. However, because of widespread confusion and misunderstanding in the public mind concerning the effects of atomic blasts, ARC obtained permission to reprint the talk for general distribution. A limited number are available from local disaster chairmen.

California Morbidity Reports Selected Diseases—Civilian Cases

Total Cases for December and Total Cases for January Through December, 1949, 1948, 1947 and 5-Year Median (1944-1948)

Selected diseases	Current month: December				Cumulative: January through December			
	1949	1948	1947	5-yr. median, 1944-1948	1949	1948	1947	5-yr. median, 1944-1948
Chickenpox (varicella)	1,764	2,961	3,238	2,962	43,134	40,466	37,395	
Coccidioidal granuloma	5	1	9	.....	82	72	62	.....
Conjunctivitis—acute infectious of the newborn (ophthalmia neonatorum)	2	1	4	.....	11	15	31	.....
Diphtheria	18	43	57	91	449	444	774	
Dysentery, bacillary	61	76	21	.....	950	518	199	.....
Encephalitis, infectious	4	2	11	11	59	69	128	
Epilepsy	163	218	183	.....	2,134	1,988	1,738	.....
Food poisoning	22	19	65	.....	631	638	1,113	.....
German measles (rubella)	129	290	210	.....	17,893	3,710	2,468	.....
Influenza, epidemic	26	71	674	85	775	14,700	1,469	
Jaundice, infectious	46	19	11	.....	509	109	119	.....
Malaria	1	.....	8	8	20	46	110	
Measles (rubeola)	338	1,520	1,330	1,303	42,010	64,727	8,316	
Meningitis, meningococcic	21	30	29	30	276	336	282	
Mumps (parotitis)	2,041	2,830	1,544	1,851	39,224	32,144	17,367	
Pneumonia, infectious	111	126	199	199	1,645	1,683	1,846	
Poliomyelitis, acute anterior	150	539	38	70	2,744	5,781	866	
Rabies, animal	5	31	49	46	151	279	303	
Rheumatic fever	32	71	59	.....	619	704	816	.....
Scarlet fever	348	390	514	514	3,537	3,695	5,019	
Streptococcic sore throat	52	88	43	.....	566	581	502	.....
Smallpox (variola)	.....	.....	.....	.....	.....	.....	2	.....
Tuberculosis:								
Pulmonary	606	776	720	618	8,417	8,263	8,707	
Other forms	38	42	80	73	531	574	602	
Typhoid fever	8	9	19	8	116	166	181	
Typhus fever	4	3	9	.....	14	20	35	.....
Undulant fever (brucellosis)	9	16	21	21	113	157	284	
Whooping cough (pertussis)	351	218	488	405	4,471	3,518	9,394	
Venereal diseases:								
Chancroid	27	40	58	.....	530	432	581	.....
Gonococcus infection	1,400	2,383	2,636	2,193	22,482	26,771	32,396	
Granuloma inguinale	3	4	8	.....	25	49	80	.....
Lymphogranuloma venereum (lymphopathia venereum, lymphogranuloma inguinale)	12	21	19	.....	237	236	213	.....
Syphilis	803	1,365	1,584	1,584	14,090	17,089	21,766	

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